

AMENDMENTS IN THE CLAIMS:

1. (Currently Amended) A laser driving device comprising:
a laser driving section for supplying a driving current for causing a laser to emit light;

a temperature detecting section for detecting a temperature of the laser; and
a voltage control section for supplying a source voltage to the laser driving section while changing a voltage value of the source voltage in accordance with the temperature detected by the temperature detecting section,

wherein the laser driving section and the laser are connected in series,

wherein the laser driving section and the laser become operable with supply of the source voltage supplied to one end of one of the laser driving section and the laser, and the laser driving section supplies the driving current based on an instruction value which is different from the voltage value of the source voltage, and

wherein the voltage control section controls the voltage value of the source voltage so that the voltage value at a first temperature becomes lower than the voltage value at a second temperature which is lower than the first temperature.

2. (Previously Presented) The laser driving device of claim 1, further comprising a power control section for causing the laser to emit the light with a predetermined emission power by controlling the instruction value for the laser driving section so as to adjust the driving current supplied from the laser driving section.

3. (Original) The laser driving device of claim 2, further comprising a setting section for instructing a setting of a reference voltage in accordance with an amount of light to be emitted by the laser.

4. (Currently Amended) The laser driving device of claim [2] 3, further comprising an emission power detecting section for detecting a value which is in accordance with the emission power of the laser and for outputting a signal corresponding to the value,

wherein the power control section controls an instruction value to the laser driving section based on a voltage of the signal output from the emission power detecting section, and the reference voltage, in such a manner that the voltage of the signal equals the reference voltage.

5. (Original) The laser driving device of claim 4, wherein,
characteristics between an operating voltage, which is necessary for the laser to operate, and the driving current differ depending on temperature; and
the voltage control section determines the voltage value of the source voltage based on the driving current and the characteristics.

6. (Previously Presented) The laser driving device of claim 5, wherein,
the operating voltage increases as the temperature decreases; and
the voltage control section supplies a higher source voltage as the temperature decreases.

7. (Previously Presented) The laser driving device of claim 1, wherein the laser driving section outputs the driving current for causing a laser whose wavelength is within a range from 400 nm to 430 nm to emit light.

8. (Currently Amended) An optical head for performing a data write and/or read operation with respect to an information recording layer of a storage medium, comprising:

- a laser;
- a laser driving device for supplying a driving current for causing the laser to emit light;
- an objective lens for converging light from the laser onto the information recording layer; and
- a light-receiving section for receiving light reflected from the information recording layer and for outputting a signal which is in accordance with the amount of light, wherein,

the laser driving device includes:

a laser driving section for supplying a driving current for causing the laser to emit light;

a temperature detecting section for detecting a temperature of the laser;
and

a voltage control section for supplying a source voltage to the laser driving section while changing a voltage value of the source voltage in accordance with the temperature detected by the temperature detecting section,

wherein the laser driving section and the laser are connected in series.

wherein the laser driving section and the laser become operable with ~~supply of~~ the source voltage supplied to one end of one of the laser driving section and the laser, and the laser driving section supplies the driving current based on an instruction value which is different from the voltage value of the source voltage, and

wherein the voltage control section controls the voltage value of the source voltage so that the voltage value at a first temperature becomes lower than the voltage value at a second temperature which is lower than the first temperature.

9. (Currently Amended) An optical disk apparatus for performing a data write and/or read operation with respect to an information recording layer of an optical disk, comprising:

an optical head for radiating light toward the optical disk, and generating and outputting a servo signal based on light reflected from the information recording layer;

a control signal generating section for generating a control signal for controlling a position of a focal point of the light based on the servo signal output from the optical head; and

a driving circuit for generating a driving signal based on the control signal, wherein,

the optical head includes:

a laser;

a laser driving device for supplying a driving current for causing the laser to emit light;

an objective lens for converging light from the laser onto the information recording layer;

an actuator for adjusting a position of the objective lens based on the driving signal; and

a light-receiving section for receiving light reflected from the information recording layer and for outputting a signal which is in accordance with the amount of light, wherein,

the laser driving device includes:

a laser driving section for supplying a driving current for causing the laser to emit light;

a temperature detecting section for detecting a temperature of the laser; and

a voltage control section for supplying a source voltage to the laser driving section while changing a voltage value of the source voltage in accordance with the temperature detected by the temperature detecting section,

wherein the laser driving section and the laser are connected in series,

wherein the laser driving section and the laser become operable with ~~supply of~~ the source voltage supplied to one end of one of the laser driving section and the laser, and the laser driving section supplies the driving current based on an instruction value which is different from the voltage value of the source voltage, and

wherein the voltage control section controls the voltage value of the source voltage so that the voltage value at a first temperature becomes lower than the voltage value at a second temperature which is lower than the first temperature.

10. (Currently Amended) A laser driving method comprising the steps of:

supplying a driving current for causing a laser to emit light using a laser driving section connected to the laser in series;

detecting a temperature of the laser; and

supplying a source voltage when executing the step of supplying the driving current, a voltage value of the source voltage being changed in accordance with the detected temperature,

wherein the step of supplying the driving current and the laser emission based on the driving current become operable with ~~supply of~~ the source voltage supplied to one end of one of the laser driving section and the laser, and

wherein the step of supplying the driving current supplies the driving current based on an instruction value which is different from the voltage value of the source voltage, and

wherein the step of supplying the source voltage controls the voltage value of the source voltage so that the voltage value at a first temperature becomes lower than the voltage value at a second temperature which is lower than the first temperature.